

## CLAIMS

### What is claimed is:

- 5 1. A system for transmitting a bitstream, the system comprising:  
a first communication interface configured to receive the bitstream, the bitstream including a timing relationship for data in a portion of the bitstream;  
a processing apparatus configured to process the data in the bitstream portion in a manner that changes the timing relationship of the data in the bitstream portion; and  
10 a second communication interface configured to transmit an output bitstream onto a channel, the output bitstream including the timing relationship for data in the portion of the bitstream as received by the first communication interface.
- 15 2. The system of claim 1 wherein the processing apparatus is further configured to create a timestamp including timing information, the timing information describing the timing relationship of data in the portion of the bitstream.
- 20 3. The system of claim 2 further including a synchronization source configured to provide a reference time to the processing apparatus.
4. The system of claim 2 wherein the processing apparatus is configured to create the timestamp using timing information that describes the timing relationship of data in a portion of the bitstream as received by the first communication interface.
- 25 5. The system of claim 2 wherein the processing apparatus is configured to add the timestamp to at least one packet in a set of packets included in the first bitstream.
- 30 6. The system of claim 5 wherein the bitstream is an MPEG-2 compressed bitstream and the processing apparatus is configured to add the timestamp to a transport packet in the MPEG-2 bitstream.

7. The system of claim 6 wherein the processing apparatus is configured to replace a synchronization byte in the bitstream with a new synchronization byte, the new synchronization byte signalling the beginning of payload data for a payload portion of the bitstream.

8. The system of claim 6 wherein the second communication interface is configured to transmit the output bitstream according to a DVB/ASI protocol.

9. A method for transmitting a bitstream, the method comprising:  
providing timing information that describes a timing relationship of data in a portion of the bitstream;  
processing the data in the bitstream portion in a manner that changes the timing relationship of the data; and  
transmitting an output bitstream onto a first channel, the output bitstream including the timing relationship for data in the bitstream.

10. The method of claim 9 further including creating a timestamp including the timing information.

11. The method of claim 10 wherein the bitstream includes a set of packets and the method further includes adding the timestamp to at least one packet in the bitstream.

12. The method of claim 9 further including receiving the bitstream from a second channel.

13. The method of claim 12 further including restoring the timing relationship of the data in the portion of the bitstream after processing has occurred.

14. The method of claim 9 wherein the bitstream is an MPEG-2 compressed stream.

15. The method of claim 14 wherein transmitting uses a DVB/ASI protocol.

16. The method of claim 15 wherein the transmitting utilizes an 8B/10B encoding scheme.

17. The method of claim 14 further including adding one of a stream identifier and a new synchronization byte to the bitstream.

18. The method of claim 9 wherein processing comprises one of multiplexing, re-multiplexing, de-multiplexing, encoding, transcoding, scrambling, and de-scrambling.

19. The method of claim 9 wherein the processing is performed in real-time.

20. A system for providing a bitstream, the system comprising:

means for identifying timing information in the bitstream, the timing information

describing a timing relationship of data in a portion of the bitstream;

means for processing the data in the bitstream portion in a manner that changes the timing relationship of the data; and

means for transmitting an output bitstream onto a first channel, the output bitstream including the timing relationship for data in the bitstream.

21. The system of claim 20 further including means for receiving the first bitstream, the means for receiving the first bitstream coupled to the means for processing the data.